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## The Gladiolus and its Development from the Wild

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No other genus of cultivated plants has such diversity of forms in it as has the Gladiolus. To properly understand these and their influences on our modern hybrid forms we must first get a picture of the native habitats of these plants and of the natural range of the genus. Climatic influences profoundly influence both their forms and growth habits. The Gladiolus is found growing wild in Southern Europe, Asia Minor, throughout Africa, the Canary Islands, and Madagascar. The greatest number of different forms, however, is found in South Africa, so we may properly confine our observations to this region. The west coast of South Africa has winter rains and a summer drought, while the interior and east coast have scanty and infrequent summer rains and a dry winter; accordingly, the species of the western provinces are small slender winter growers, which complete their growth and flower in the early spring. Only the mountain forms are tall and robust. Of the nine subgroups into which the genus Gladiolus can be divided, six of these are most fully developed in this region of winter rains. These include (1) the slender ones, such as the fragrant Afrikanders—*Gladiolus recurvus*, *G. tristis*, *G. grandis*—and (2) the Cardinal-flowered Gladioli, which are found both in the mountains and in the dry interior; including *G. cardinalis*, *G. Saundersii* and the large and impressive blood red *G. cruentus*. The third group of this western region are the Blandus group which are pale-flowered and are heavier growers than most. There are also other subgenera, quite distinct from the general run of Gladiolus. These are *Hebea*, *Sweigera*, and *Homoglossum*. None of these have entered into the composition of the modern hybrids and they are not commonly seen, so they may be passed over here.

In the region of summer rains in the eastern part of South Africa are found the tall robust species of Gladiolus which

have met with favor among gardeners and have given rise to the modern varieties, these belonging principally to three groups. The Dragon's Head group, so called because of the shape of the flowers, include *Gladiolus dracocephalus*, *G. primulinus*, and *G. psittacinus*. The other two important groups of this region may be termed the Small-Flowered forms. These have relatively small blossoms and conferred upon our modern sorts a tendency to long spikes with many blooms open at once. The opposite-flowered *Gladiolus oppositiflorus* of the group called the Blandi, the lavender *G. Papilio*, and the yellow *G. purpureo-auratus* of the Parviflorus group, were the principal ones used in hybridizing, but appear no longer to be obtainable in cultivation. Besides these South African groups which I have mentioned and which include about 200 species there are nearly a score of Eurasians species which are relatively hardy and of interest for outdoor bedding. They have small flowers and in general the colors are not attractive.

Of this complex assortment of species only about a dozen have been concerned in the development of our garden varieties. The first hybrids of importance were the so-called Gandavensis strain which originated about 1840. These were hybrids derived principally from the wild species, the Parrot *Gladiolus*, the Opposite-Flowered *Gladiolus*, and *Gladiolus floribundus*. These three belong, the first, to the Dragon's Head, and the last two to the Blandus group, thus showing that the widely different forms of *Gladiolus* are easily intercrossed. The resulting hybrids produce long spikes of bright-colored, medium-sized flowers and were deservedly popular for nearly half a century up until 1890. The first radical departure from these Gandavensis sorts were the Lemoine hybrids produced by crossing these earlier sorts with another species, a purple spotted *Gladiolus*. This latter was a pale yellow flower with velvety purple throat blotch, striking markings, slender habits, and winter hardiness. These Lemoine or Butterfly *Gladiolus* as they were called were particularly popular in France and several of their descendants such as Elizabeth Tabor, La Couronne, Dawn, Mrs. Frank Pendleton, and La Luna, are still very popular garden varieties. Early in the development of these, Victor

Lemoine also used another *Gladiolus* species, *G. Papilio*, the Butterfly *Gladiolus* species. This had a bluish color with dark throat and yielded purple, violet, and blue-tinted seedlings. Baron Jos. Hulot, introduced by Lemoine in 1886, is still one of the most popular of the blue-violet *Gladiolus*. At about the same time that Lemoine was developing the Butterfly strain, a German, Max Leichtlin, was experimenting in crossing *Gladiolus Saundersii* with the old *Gandavensis* hybrids. His seedlings, because their stalks were short and had a few open blooms, were unpopular in Europe and finally his whole stock was purchased by an American nurseryman, and from this was developed the *Childsii* strain which was introduced in 1893. These had flowers of huge size and brilliant coloring. The varieties *America*, *Panama*, *Niagara*, *Prince of India*, and *Columbia* are still being grown among these old varieties. At about this same time Lemoine also made crosses between his *Lemoinei* varieties and the same *Gladiolus Saundersii*. His seedlings were almost identical in character with the *Childsii* varieties. In recent times, since 1900, all of these different strains have been so intercrossed with one another that we can no longer distinguish one type from another among our modern sorts. New forms of *Gladiolus* are so easily grown from seed and seedling *Gladiolus* vary so much in character that it is an easy matter for any industrious grower to produce hundreds of thousands of new kinds every year. Each grower then picks from his diverse assemblage of seedlings a few dozens or scores that appeal to him as the most attractive. For instance, Mr. A. E. Kunderd of Goshen, Indiana, has favored particularly the varieties with ruffled or frilled petals and has accordingly emphasized this trait which was not uncommon among the older varieties. *Saffrano*, introduced by Souchet in the eighties, was distinctly ruffled. Kunderd's first ruffled variety was *Kunderdi Glory*, introduced in 1907. He has since put out a number of very pretty ruffled sorts such as *Marie Kunderd*, *Golden Frills*, *E. J. Shaylor*, etc. The modern tendency in *Gladiolus* has been somewhat away from the stiff spikes with closely spaced flowers, which were the delight of the European gardeners of the past generation. Now an opener, more graceful spray effect, with flowers of only moderate size, seem to be preferred.



Gladiolus, Coronado, one of the modern varieties

Some of the most attractive slender sorts have been developed by crossing the garden hybrids with other wild species. The Maid of the Mist *Gladiolus* which was introduced from the moist gorge of the Victoria Falls in tropical Africa, has a rich yellow blossom which is small, narrow, drooping and very much hooded, it is slender and graceful of very distinctive form, its seedlings all are colored by a combination of the yellow of the species with the varied colors of the hybrid parent, giving delicate tints of orange, salmon, cream, and a variety or pastel shades. Ruffled blossoms have also been developed among these *Primulinus* hybrids and they are particularly graceful. Ming Toy, The Orchid, Butterfly, Golden Frills and Cara Mia all belong in this latter group. Recently the perennial demand for larger and larger sized flowers has resulted in the development of giant forms of *Primulinus* hybrids such as Giant Nymph. These retain the graceful habit of the wild species combined with larger size and firmer substance.

The modern *Gladiolus* thus has a complex heritage from a number of wild forms, but only four of the nine principal groups comprising the genus appear to have entered into the development of our garden varieties. The five remaining groups and the scores of neglected species offer ample opportunity for many new developments. It would be a rash person indeed who would attempt to predict what new developments there may be among *Gladiolus* even during the next decade.

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